T. DOWNIE.

ANCHOR.

APPLICATION FILED NOV. 10, 1906.

913,367.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.

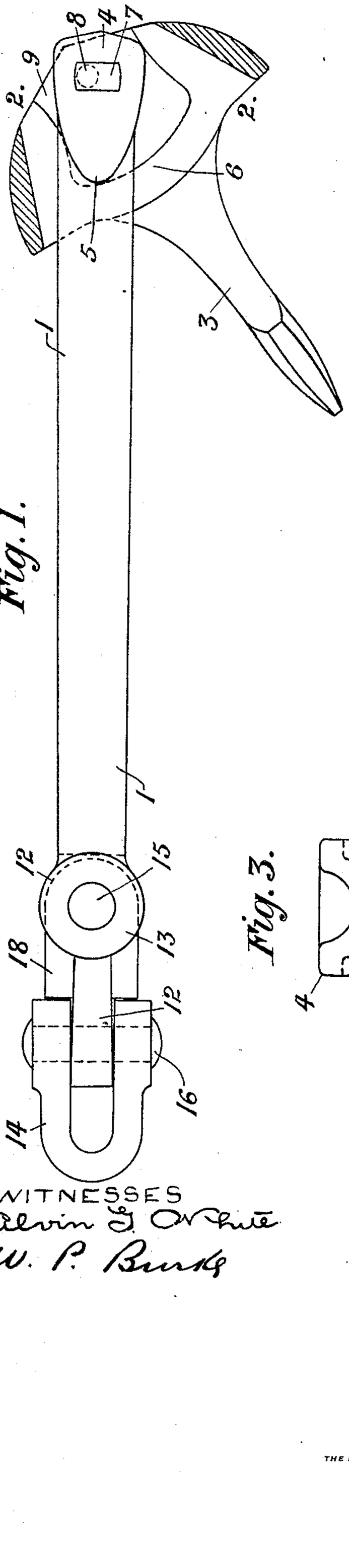

Fig. 1.

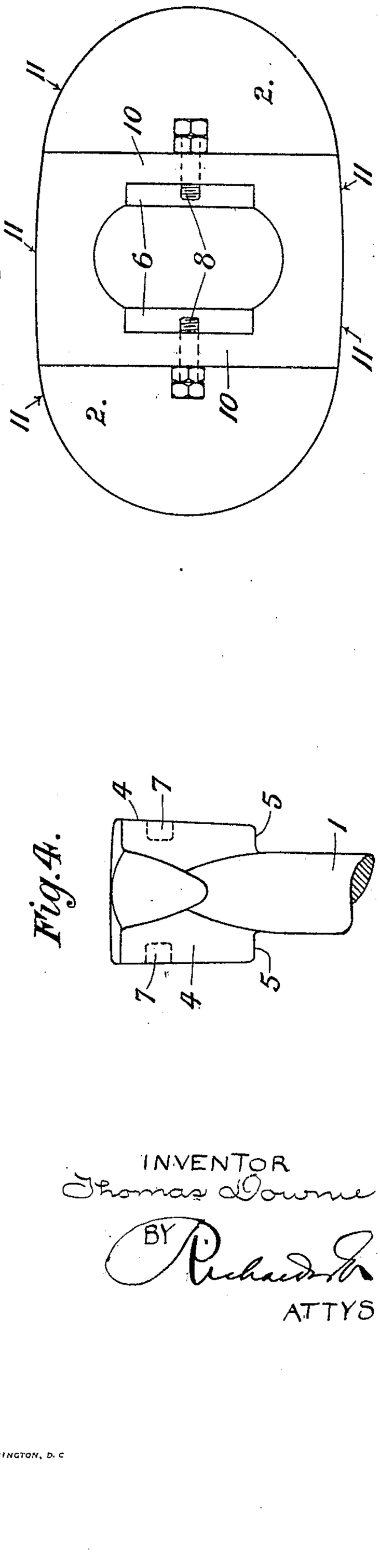

Fig. 2.

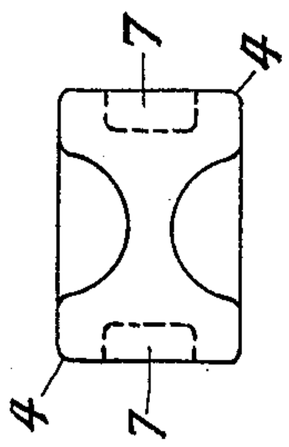

Fig. 3.

Fig. 4.

WITNESSES

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W. P. Burks

INVENTOR

Thomas Downie

BY Richards Jr

ATTYS

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2 SHEETS—SHEET 2.

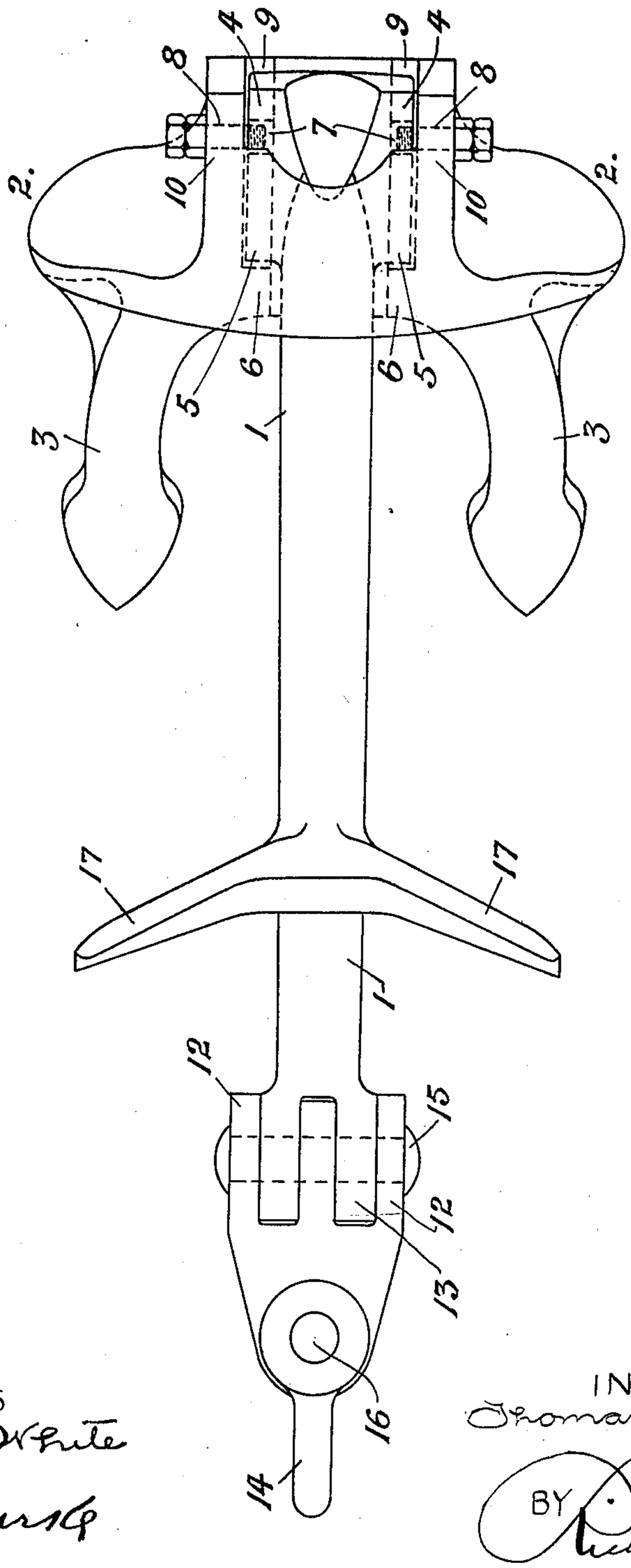

Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS DOWNIE, OF LIVERPOOL, ENGLAND.

ANCHOR.

No. 913,367. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed November 10, 1906. Serial No. 342,897.

To all whom it may concern:

Be it known that I, THOMAS DOWNIE, a subject of the King of England, residing at Liverpool, in the county of Lancaster, England, have invented new and useful Improvements in Anchors, of which the following is a specification.

This invention has reference to anchors, and more particularly to that type known as stockless anchors, that is to say, the type wherein the shank is attached by a loose or jointed connection in the head, and is adapted to move about the loose joint across the plane in which the flukes of the anchor lie.

An anchor involving the improvements under this invention is illustrated in the annexed drawings, and the invention will be described with the aid of these drawings; the novel characteristics thereof being set out in the claiming clauses concluding the specification.

In the drawings, Figure 1 is a side elevation of the anchor; Fig. 2 is an end view of the anchor head; Fig. 3 is an end view, and Fig. 4 a side view or plan, of the shank head. Fig. 5 is a side elevation of an anchor of slightly different type to that shown in Fig. 1.

Referring to the anchor shown in the drawings, 1 generally designates the shank of the anchor; and 2 is the head carrying the flukes 3.

The shank 1 is provided at its outer end with a boss or enlargement 4 on each side; the inner edges 5 of which are adapted in use to rest and bear upon a shoulder 6 of the form of an arch or curve, in the head 2; and these bearing parts 5 are adapted to rock, when the shank or head moves from one side to the other, about a point beyond them, such point being near the outer portions of the shank end, namely, about the recesses 7 in the shank end, in which the pins 8 in the anchor head fit; and the strain on the shank is transmitted to it through these parts 4, 5.

The head 2 is provided with chambered recesses 9 at each side, in which the projecting parts 4 of the shank end fit and rest, of which the shoulders 6 form the bottom. The projecting parts 4 of the shank end are elongated, that is, they are longer than their width or the diameter of the shank, and at their inner ends, namely, at the bearing points 5 they are rounded.

The pins 8 which fit in the recesses 7 of the shank end portions 4, are screwed through cheeks 10 projecting out from the back side of the head 2; and while these pins or screws 8 will prevent the head passing inwards or moving along the shank 1, that is, and they hold the shank and head in the desired relative position, they take no strain when the anchor is in use, the whole of such strain being taken by the parts 4, which, as stated, fit inside the chambered parts 9; the longitudinal thrust being actually taken by the end bearing portions 5; and the strain tending to revolve the anchor head about the shank end, is taken by this part 5, and an outer part or corner of the projecting parts 4, which, as stated, fit and rest on the sides of the two chambers 9. By this construction, the strain of the anchor is directly taken by an integral portion of the shank, while the holding effect of the anchor is very firm, and the thrust directed in the required direction and manner.

The edges 11 of the anchor head 2 extend along both sides of it as shown, and being extended in either direction some width from each side of the center plane of the head and flukes, they act as trippers to it, to bring the anchor flukes into action, and trip the head when the anchor is coming into use.

In the modification shown in Fig. 5, the shank 1 is provided with a stock or projecting parts 17, but in other respects it is the same as that shown in Fig. 1.

The aperture through the head 2, in which the shank end is disposed and works, is such that when the pins or screws 8 are withdrawn, and the shank pressed out through the head a little distance, by turning the shank round 90°, and then pulling it back again towards the head, it can pass through the aperture in the head.

The end of the shank 1 at which it is connected up with the cable, is provided with a double jointed connection, consisting of a link 12, the inner end of which is in the form of a tongue, which fits in a jaw 13 on the end of the shank 1; and to the outer end of which the shackle 14 is pivoted; the pin 15 fastening the shackle 12 to the shank head, and the pin 16 fastening the shackle 14 to the link or shackle 12 being at right angles to each other. The shackle or link 12 is provided with ribs 18 which come directly under the inner ends of eye of the shackle 14, so that if the tendency of the shackle is to bend, these parts 18 will support the shackle 14 and prevent it bending.

In the modification shown in Fig. 5, the

link 12 is double jawed, and fits over the jaw parts 13 of the shank, the double jaw of 12 and 13 being fastened together by the pin 15 which forms the hinge; and the link or shackle 12 is fitted similarly as in Fig. 1 at its end with an ordinary hinge shackle 14. By this construction and mode of connection, a strong double hinge connection or shackle is provided.

What I claim is:

1. In ships' anchors, a head having a passage therethrough and chambers in the side walls of the passage, the front walls of said chambers being curved, a shank provided with projections relatively smaller than the said chambers, and so shaped that the opposite edges of each projection engage with the corresponding edges of each chamber when the shank is in its extreme positions, and the front edge of each projection bears against the curved front edge of each chamber.

2. A ship's anchor comprising a movable head having a passage therethrough and chambers in the side walls of the passage each having a curved front wall, a shank having projections of less width than the said chambers, and laterally extending recesses in the faces of the said projections, the shank and projections, respectively, fitting in the through passage and chambers in the movable head, and a pin passing through the side walls of the passage in the head and projecting into the recesses in the projections, so as to permit the head to oscillate and move laterally relatively to the shank, and the end of each projection to bear against the front wall of one of the said chambers.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS DOWNIE.

Witnesses:

S. GOODALL,

W. HARRISON.